

**BELONOPELTA MINIMA NEW SPECIES (HYMENOPTERA,
FORMICIDAE, PONERINAE) FROM EASTERN BRAZIL**

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ABSTRACT

A new species of Belonopelta Mayr, B. minima, sp. n., from Brazil, Bahia state, is described from workers collected from soil samples in an old cocoa plantation. The present status of the genus is discussed.

INTRODUCTION

Belonopelta is a rare ponerine genus (subtribe Poneriti *sensu* BROWN, 1976) established by MAYR (1870) for *B. attenuata* (type-species, original designation) from Colombia. Three additional species were described before 1922: *B. curvata* Mayr, 1887 from Santa Catarina, Brazil; *B. pergandei* Forel, 1909 from Guatemala and *B. jeckylli* Mann, 1916 from "Mato Grosso", presently Rondonia, Brazil. MANN (1922) described *B. deletrix* from Honduras, referring it along with the genotype to *Belonopelta s. str.*, while grouping the remaining species in a new subgenus, *Simopelta*. WHEELER (1935) treated the two names as separate genera and described two Ecuadorean species, *S. williamsoni* and *S. manni*.

This arrangement was followed by BORGMEIER (1950) in describing *S. bicolor* from Espirito Santo, Brazil; GOTWALD and BROWN (1966), *S. oculata* and *S. laticeps* from, respectively, Costa Rica and Peru and by SNELLING (1975), *S. paeminosa* from Costa Rica.

WILSON (1955) described the ecology and behavior of *B. deletrix* in Pueblo Novo, Veracruz, Mexico. He collected a colony nesting in a six inches long cavity "the diameter of a pencil" in a rotten branch "buried in leaf litter between the buttresses of a large tree" in a spot of rainforest, where he found a normal dealate queen, 10 workers and immatures. A colony fragment was found in a similar cavity "in a very rotten, crumbling tree branch three to four inches in diameter lying on the ground and partly covered by rather dry leaf litter". From his field and artificial nests observations he concluded that these ants prey preferably on campodeids. Its worthwhile to note that while the queen he found was a normal dealate, the reproductive female described by BORGMEIER (*op. cit.*) for *B. pergandei* was a dichthadiiform.

In a revision of *Simopelta*, GOTWALD & BROWN (*op. cit.*) present observations on the behavior of *S. oculata* and discuss the literature on the biology of the genus, in particular concerning its army-ant-like way of life.

Belonopelta was reviewed most recently by BARONI-URBANI (1975), who redefined the genus, synonymizing *Simopelta* and *Emeryopone* Forel (the latter known from only one species from Sumatra) under *Belonopelta*, described two new species from Israel and Nepal and created the new generic name *Leiopelta* for *B. deletrix*.

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Accepting this interpretation, *Belonopelta* now includes 10 Neotropical, 1 Mediterranean and 2 Asian taxa.

The following new species from southeastern Bahia state, Brazil, was received among a series of ants collected in Berlese and soil samples from an old shaded cocoa plantation ("cabruca" type) by Dr. Jacques Delabie during 1986-1987. Holotype and paratype workers were received on separate pins. *B. minima*, sp. n. was collected from 0-15 cm deep soil samples near trees numbered 178 (holotype and paratype) and 371 (2 paratypes) in an area named "Quadra G".

Measurements and indexes are the routine ones in Formicidae. Abbreviations as in BROWN (1958:254), unless otherwise stated. The description is based on characters found by BARONI-URBANI (1975:297) to be useful in separating species of *Belonopelta*.

***Belonopelta minima*, sp. n.**

(Figs. 1-4)

♂. Type-locality: BRAZIL. Bahia, Km 22 Ilhéus-Itabuna road (BR 415). Jacques Delabie col., 16.vi.1986 (holotype and one paratype), 03.xii.1987 (two paratypes) (14°49'S, 39°12'W). Holotype and two paratypes in the "Museu de Zoologia, Universidade de São Paulo". Paratype in the Museum of Comparative Zoology, Harvard University.

Measurements (mm) of holotype and paratype (same date), respectively: TL 2.08-2.40, HL 0.55-0.55, HW 0.40-0.43, SL 0.33-0.35, ML (mandible length *in situ* from the external angle of articular border to tip of apical tooth) 0.33-0.33, WL 0.70-0.70, PL (petiolar length in lateral view) 0.18-0.18, GL (gaster length in dorsal view) 0.65-0.90, CI 73-78.

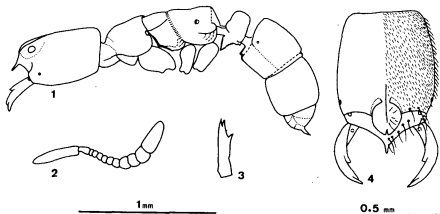


Fig. 1-4. Holotype worker of *Belonopelta minima*, sp. n. 1. side view; 2. left antenna (*in situ*); 3. left mandible (*in situ*); 4. frontal view of head (right side pubescence omitted).

Diagnosis (worker). Smallest species thus far known in the genus; clypeus with a long and sharp median spine; mandibles smooth tridentate, diastema with no denticles, basal tooth acute; pronotum and mesonotum almost as finely and densely punctulate as head capsule, fine longitudinal costulate elements in sculpture only at sides of propodeum; paired teeth on metasternum; subpetiolar process triangular with a sharp anterior angle; integument mostly sub-opaque, bright ferruginous red.

Description. Mandibles smooth and shining. Head densely and finely punctulate, sub-opaque, minute punctulation nearly contiguous. Dorsum of alitrunk also finely punctulate, though the sculpture is shallower, leaving smooth areas near the promesonotal suture. Katepisternum and sides of propodeum with fine, almost parallel, longitudinally oriented striation over a even finer punctulate surface, same sculpture faintly visible on declivitous face of propodeum and posterior face of petiole. Appendages covered by smaller and indistinct punctures, opaque, with shining areas on posterior faces of middle and hind femora.

Color. Bright ferruginous red; antennae and legs yellow.

Body, including appendages, covered by a fine, dense and short mostly subdecumbent pubescence (suberect on propodeum and petiole dorsum), sparse on mandibles, clypeus, declivitous face of propodeum, sides of alitrunk and sloping faces of petiole. Longer erect hairs on central portion of clypeus, mandibles, ventral portion of gaster and near tarsal claws.

Head with subparallel sides, meeting the nearly straight posterior border through broadly rounded occipital corners. Frontal lobes elevated, large, subcircular, widest behind the middle. The lobes separated by a narrow and deep furrow leading to the deep elongate frontal area, naked and shining, which almost reaches midlength of head capsule. Mandibles falcate with three pointed teeth, the apical and subapical separated from the basal tooth by a smooth rounded diastema. Clypeus carinate in the middle, with the anterior triangle produced as a long and sharp almost cylindrical spine, slightly bent downwards in lateral view. Scape when laid back fails to reach the posterior border by a distance almost twice its apical breadth. Last funicular segment nearly as long as the preceeding three together. Club gradually thickened. Single eye facet small and inconspicuous, located very close to the clypeal lateral margin (fig. 1).

Alitrunk broadest at pronotum with dorsal profile interrupted by promesonotal suture. Metanotal groove impressed laterally, obsolete at dorsum. Basal face of propodeum longer than declivitous face, the former in side view with a feeble median depression. Metasternum with blunt paired slender teeth at anterior margin. Petiole, in lateral view, higher than long with subparallel sides, the anterior face slightly concave more gently sloping than posterior face. Dorsal corners of petiole rounded in side view, but limiting a distinct dorsal margin. In frontal view, dorsal petiole margin evenly rounded. Subpetiolar process distinctly triangular with anterior apex and ventral margin irregular (regulations only visible at 60 X). In dorsal view, first gastric segment with anterior face slightly concave, the dorsal margin nearly straight and the ventral portion not so receding ventrad as in *B. pergandei* (cf. BORGMEIER, 1950, fig. 7). Anterior face rounds into dorsal and ventral faces of gaster.

Paratypes very similar to holotype in all details examined. A paratype collected at December, 1987 is a light-yellow callow worker.

DISCUSSION

Belonopelta minima, sp. n. with a total length of less than 2.5mm can be distinguished from all other species of the genus by its small size (the smallest species previously reported has total length ca. 4mm). In published keys to the species of *Belonopelta*, *B. minima* will run to *B. pergandei* from Guatemala, Costa Rica and Venezuela (LATTKE, 1985), from which it can be separated by its shining mandibles with no denticles in the diastema (the finely reticulate mandibles of *B. pergandei* bear at least two denticles in the diastema), the triangular shape of the ventral petiolar process and presence of paired teeth on the metasternum.

The closest species to *B. minima* is *B. bicolor* Borgmeier, known only from the type-locality, Santa Teresa, Espírito Santo, Brazil. The latter has no median spine on the anterior border of the clypeus and has longer scapes and 4 denticles along the diastema of the reticulate mandibles. In *B. bicolor* the petiole is higher and the ventral triangular process posteriorly directed.

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